

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

SOME TURRID MOLLUSKS OF MONTEREY BAY
AND VICINITY.

BY PAUL BARTSCH,¹

*Curator, Divisions of Mollusks and Cenozoic Invertebrates
United States National Museum.*

Dr. Allyn G. Smith, Research Associate, California Academy of Sciences, and Mr. Mackenzie Gordon are preparing a report on the mollusk fauna of Monterey Bay and vicinity, and Dr. Smith has asked me to look over their list of turrids and prepare comments thereon. In order to render his list complete and in conformity with the monograph I am preparing on the West American turrid fauna, it becomes necessary to describe a number of superspecific groups as well as species, which is here done.

The new species here described will be figured in the monograph.

Antiplanes profundicola, new species.

Shell of medium size, rather stout in comparison to its height, sinistral, covered with a thin olivaceous periostracum. Nuclear whorls eroded. The postnuclear whorls are inflated, strongly rounded, and marked by decidedly sigmoid incremental lines which follow the outline of the very deeply incised broad posterior sinus. In addition to this, the whorls are marked by slender, retractively curved, dendritic threads which radiate obliquely, retractively from the middle of the turns both anteriorly and posteriorly. The anterior half of the whorls also bears feebly incised spiral threads. Suture very strongly constricted. Base rather short, well rounded. Columella moderately long and stout. The base and columella are both marked by the continuations of the incremental lines and spiral threads, the latter become stronger on the columella. The right outline of the base and columella is decidedly concave. Aperture large. Anterior canal broad and short. Outer lip thin, protracted

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anterior to the sinus; inner lip decidedly sigmoid, reflected over and appressed to the base and columella.

The type, U. S. N. M. No. 209128, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 4352 off Point Loma Lighthouse, California, in 549–585 fms. on green mud bottom; bottom temperature, 39° F. It has 7 whorls remaining and measures: Height, 26.7 mm.; greater diameter, 10.4 mm.

U. S. N. M. No. 266861 contains 2 specimens dredged by the *Albatross* at station 5699, off Point Sur Light, lat. 36° 0' 30" N., long. 122° W., in 659 fms., on green mud bottom; bottom temperature, 37.9° F.

U. S. N. M. No. 209320 contains 1 specimen dredged by the *Albatross* at station 4425, off San Nicolas Island in 1100–1084 fms., on green mud, fine sand and globigerina bottom.

U. S. N. M. No. 266835 contains 2 specimens dredged by the *Albatross* at station 5694 off San Nicolas Island, lat. 33° 24' 36" N., long. 120° 12' 30" W., in 640 fms. on green mud bottom.

U. S. N. M. No. 209084 contains 1 specimen dredged by the *Albatross* at station 4326 off Point La Jolla, California, in 243–292 fms. on soft green mud; bottom temperature, 44° F.

U. S. N. M. No. 214065 contains 2 specimens dredged by the *Albatross* at station 2923, off San Diego, lat. 32° 40' 30" N., long. 117° 31' 30" W., in 822 fms. on green mud bottom; bottom temperature, 39° F.

U. S. N. M. No. 208899 contains 2 specimens dredged by the *Albatross* at station 4382, off North Coronado Island in 656 fms. on green mud bottom; bottom temperature, 42.5° F.

The short stout form will readily distinguish this species from the other members of the region.

Antiplanes diomedea, new species.

Shell moderately large, turritid, sinistral, covered with a thin olivaceous periostracum. Nuclear whorls eroded. The postnuclear whorls are inflated, strongly rounded, slopingly shouldered, and marked by rather strong sinuous incremental lines which follow the outline of the posterior sinus. In addition to this, they are marked by weak, oblique, dendritic markings. Suture very strongly constricted. Base of the last whorl moderately rounded, moderately long. The columella is rather stout, moderately long, somewhat twisted, and marked by the continuation of the incremental lines. Aperture short, very broad and large. Outer lip thin with a broadly incised posterior sinus anterior to which it is protracted. The inner lip is sinuous and reflected over the columella as a thick callus. The anterior canal is short and broad.

The type, U. S. N. M. No. 212294, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 3186 off Point Sur, California, lat. 36° 18' 50" N., long. 122° 6' W., in 328 fms. on black sand and mud bottom; bottom temperature, 41.3° F. It has 6.8 whorls remaining and measures: Height, 40.2 mm.; greater diameter, 15.8 mm.

This somewhat resembles *Antiplanes profundicola* but is ever so much larger,

RECTIPLANES, new genus.

Shell elongate-conic, dextral, covered with a moderately strong periostracum. Nuclear whorls a little more than 1.5, somewhat inflated, forming a slightly expanded apex; the first smooth and the last marked only by fine incremental lines. Postnuclear whorls appressed or narrowly shouldered at the summit and marked by decidedly sigmoid lines of growth which follow the outline of the posterior sinus. The spiral sculpture may be absent or consist of threads of varying strength in the different species. In addition, weak dendritic, retractively oblique lines radiating from the posterior sinal line may be present, or, in some species deeply impressed oblique lines may roughen the surface. Aperture more or less elongate pear-shaped, decidedly channeled anteriorly with a deep sinus a little anterior to the summit on the outer lip; the portion anterior to this sinus is protracted into a slightly clawlike element; inner lip decidedly sigmoid, covered with a rather thick callus which extends over the parietal wall. Operculum narrow, claw-shaped with apical nucleus and strong, concentric incremental lines.

The animal of *R. santarosana* has very broad conic tentacles with prominent eyes placed on a little swelling on the outer basal margin. The radula has a narrow, decidedly reduced, rachidian tooth bordered by Y-shaped marginals. The males of *R. santarosana* are provided with a large verge on the right side.

Type: *Rectiplanes santarosana* (Dall) = *Pleurotoma (Antiplanes) santarosana* Dall.

RHODOPETOMA, new genus.

Shell of medium size, covered by a moderately thick periostracum. (Nuclear whorls decollated in our material.) Postnuclear whorls with a broad low cord at the summit followed anteriorly by a slightly concave area, which constitutes the sinal region. The anterior half of the whorls is marked by axial ribs which evanesce on the last turn. In addition to this, the whorls are marked by microscopic spiral lines in the sinal region and spiral threads on the ribbed portion. Suture strongly constricted. Base moderately long, marked by low, weakly developed spiral threads and incremental lines. This type of sculpture also extends over the columella. Aperture moderately large and broad; outer lip with a deep broad sinus a little below the summit. Anterior to the sinus the outer lip is protracted. The anterior channel is short and broad; the inner lip is sinuous and reflected over the columella as a callus which extends over the parietal wall. Operculum very small, lanceolate, with apical nucleus, marked on the outside by concentric lines of growth. The apical fifth of the operculum appears free on the inside and the muscle scar is deeply impressed. The radula of *Rhodopetoma rhodope* consists of a small rachidian and Y-shaped marginals.

To this genus belong the genotype *Rhodopetoma rhodope* Dall (= *Borsonnella rhodope* Dall, Proc. U. S. Nat. Mus., vol. 56, p. 39, pl. 12, fig. 3) and *Rhodopetoma amycus* Dall, Proc. U. S. Nat. Mus., vol. 56, p. 36, pl. 11, fig. 5.

CARINOTURRIS, new genus.

Shell varying from small to medium sized, and in shape from ovate to elongate-conic, covered with a thin periostracum. The nuclear whorls are practically always eroded. One specimen, however, indicates that the nucleus consists of a single smooth rounded whorl. The postnuclear whorls bear a weak median spiral keel; finer spiral sculpture may be present on the spire or base. The left outline of the base and columella is concave, and the suture is strongly constricted. The aperture is elongate-pyriform with the anterior canal rather long and rather broad. The posterior sinus falls on the shoulder of the turns or is immediately anterior to the summit. The outer lip is protracted anterior to the sinus; inner lip reflected over the columella, and the parietal wall covered with a glazed callus. The operculum is small compared to the size of the aperture and broadly ovate with apical nucleus and marked on the outside by concentric lines of growth. The radula has Y-shaped marginalia only. The animal appears to be blind.

Type: *Carinoturris adrastia* Dall (= *Cryptogemma adrastia* Dall).

The shell of this genus suggests *Spirotropis*, but the radula is entirely different, *Spirotropis* having rachidian, lateral and marginal teeth.

Carinoturris fortis, new species.

Shell large, elongate-conic, covered with a grayish olivaceous periostracum. Nuclear whorls decollated. The postnuclear whorls have a weak median spiral cord. Anterior to this they curve convexly to the slightly shouldered summit. This area is marked by retractively curved incremental lines only. The anterior half of the last whorl and base are inflated, strongly rounded, and marked by strong incremental lines which vary in strength and almost give to the base an obscurely ribbed aspect. Columella rather stout, moderately long, twisted. The left outline of the base and columella is moderately concave. Aperture elongate pear-shaped with the anterior canal moderately long and rather broad. The posterior sinus is broad and extends from the summit to the median cord. Anterior to this the outer lip is protracted. The inner lip is obliquely truncated, free for about two-fifths of its basal length. The posterior portion appears on the columella as a smooth resorption area which also extends over the parietal wall.

The type, U. S. N. M. No. 212323, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 3187 off Point Sur, California, in 298 fms., on yellow sand and mud bottom; bottom temperature, 41.1° F. It has 5 whorls remaining and measures: Height, 16 mm.; greater diameter, 7 mm.; length of aperture, 8.9 mm.

It is easily distinguished from *C. adrastia* Dall by having a much longer aperture and the spiral keel much less developed.

Megasurcula granti, new species.

?1906. *Pleurotoma (Genota) carpenteriana* Raymond, *Nautilus*, vol. 20, pl. 2, fig. 3.

Shell very large, spindle-shaped, of dingy yellowish ground color with the spiral bands on the last whorl chestnut brown. Nuclear whorls about 2, small, well rounded, smooth. The early postnuclear whorls show the sinal depression. Beginning with about the third postnuclear whorl, the weak nodules at the anterior termination of the sinal area make their appearance. These extend over about 1.5 whorls, about 14 being present. On the succeeding turns the nodulations disappear. The sinal area on the last whorl is concave and the rest of the whorl, base, and columella are convex. The outline of the base and columella on the left side is concave. The last two whorls are marked by very fine spiral lirations on the sinal area and little coarser threads anterior to this which gradually become stronger on the base. Here the moderately strong spiral threads are separated by three or four more slender threads, the heavier ones corresponding to the dark lines. The axial sculpture consists of rather rough incremental lines. There is a strong basal fasciole, which is marked by more or less concentric rough rugations. Aperture large, oval. Posterior sinus of the outer lip broad and shallow. Anterior to the posterior sinus the outer lip is protracted. The inner lip shows decided resorption on the columella which also extends up on the parietal wall.

The type, U. S. N. M. No. 55227, comes from the Stearns Collection and was collected in Monterey Bay. It has 7.6 whorls remaining and measures: Height, 99.8 mm.; greater diameter, 38.7 mm.; length of aperture, 58.2 mm.

U. S. N. M. No. 517957 contains 2 specimens from San Pedro, California, received from John Howard Paine.

U. S. N. M. No. 523713 contains another specimen from the Casey Collection marked simply "California."

This species belongs to the nodulose group of *Megasurcula*, i. e., *M. tryoniana* Gabb, *M. cooperi* Arnold, *M. keepi* Arnold, and *M. tremperiana* Dall. It differs from the first three in having the nodulations pronounced only on the early postnuclear whorls and absent on the last, and from *tremperiana* by its much larger size.

OPHIODERMELLA, new genus.

Shell rather large, regularly conic, with the first 2 nuclear whorls smooth and well rounded. The succeeding turns gradually develop the postnuclear sculpture. The postnuclear whorls bear axial riblets which assume a sigmoid trend (these vary materially in strength in the different species). In addition to this axial sculpture numerous fine incremental lines are present. The spiral sculpture consists of low cords and fine spiral striations. The base is usually marked with a little more intense sculpture, while on the columella it again becomes decidedly enfeebled. The columella bears a weak basal fasciole. The aperture is moderately long and moderately broad. The posterior sinus is moderately deeply incised, the deepest portion falling a little posterior to the middle of the turns. Anterior canal moderately long. The inner lip

is sigmoid. The operculum is quite small, ovate, with apical nucleus and concentric lines of growth. The radula bears marginal teeth only which resemble a long slender curved awl.

Type: *Ophiodermella ophioderma* (Dall). (= *Pleurotoma ophioderma* = *Pleurotoma inermis* Hinds 1844 not Partsch 1843.)

Dall, in his "Summary of marine shell-bearing Mollusks of the Northwest Coast of America, * * *", Bulletin 112, U. S. National Museum, lists the members of this genus under the name *Moniliopsis* Conrad.

While superficially the species included in the new genus resemble *Moniliopsis*, other structures point to a wide separation. *Moniliopsis* has three smooth nuclear turns followed by an axially ribbed stage which in turn is succeeded by the postnuclear sculpture. Also, the columella of *Moniliopsis* is straight, not sigmoid as in the present genus. These are good and sufficient characters for the separation.

Moniliopsis was based on *Pleurotoma elaborata* Conrad, which comes from Claiborne, that is, the Middle Eocene of Alabama.

This genus in addition to the type species which ranges from San Pedro to Lower California, includes *O. incisa* (Carpenter) which comes from the Puget Sound region and *O. halcyonis* Dall of San Pedro to San Diego region, as well as the new species here described from Monterey Bay.

Ophiodermella montereyensis, new species.

Shell small, elongate-turritid, reddish horn colored with the inside of the outer lip a little paler. The nucleus consists of 2 small smooth turns which pass into the postnuclear sculpture. The postnuclear whorls are moderately rounded and marked by sigmoid axial ribs which are not quite as wide as the spaces that separate them, and spiral threads about as wide as the axial ribs. The combination of these two elements lends to the whorls a somewhat fenestrated appearance. Periphery slightly angulated. Base moderately well rounded and marked like the spire. The columella is rather slender, sigmoid and marked by spiral cords which are more distantly spaced than those on the spire and base. Aperture elongate pear-shaped with the deepest incision of the moderately profound posterior sinus about two-thirds of the distance between the summit and the suture, anterior to the summit. Anterior to the posterior sinus the outer lip is protracted. The inner lip is sinuous and bears a shining resorption area on the columella, which also extends over the parietal wall.

The type, U. S. N. M. No. 214251, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 3134 in Monterey Bay, California, in 13 fathoms, on fine sand and mud bottom; bottom temperature, 54.5° F. It has a little more than 9 whorls, having lost a fraction of the first turn, and measures: Height, 18 mm.; greater diameter, 6 mm.

U. S. N. M. No. 206543 contains another specimen dredged by the *Albatross* in Monterey Bay at station 3142 in 13 fms. on sand and rock bottom.

U. S. N. M. No. 206537 contains another specimen dredged by the *Albatross* in Monterey Bay at station 3138 in 19 fms. on sand and mud and stone bottom. In its type of sculpture the species most nearly resembles *O. haleyonis*, but it differs from that in having much more numerous axial riblets and in being smaller.

Borsonella pinosensis, new species.

Shell rather large, elongate-turritid, covered with a pale olivaceous periostracum. Nuclear whorls decollated in all our specimens. The postnuclear whorls are moderately well rounded, appressed at the summit with the posterior sinal area slightly impressed, extending from the summit to about two-thirds of the distance between the summit and the periphery. The whorls are marked by irregularly developed, closely spaced incremental lines which assume almost the strength of riblets. In addition to this, feeble incised spiral lines are present which are best developed on the posterior half of the turns. There are also certain crisscross markings present. Base well rounded and marked like the spire. Columella stout with a narrow umbilical chink at the anterior portion. The columella is marked by the continuation of the axial sculpture. Aperture elongate pear-shaped. The posterior sinus falls immediately below the summit and is broad and moderately deep. Anterior to the posterior sinus the outer lip is protracted into a clawlike element. The inner lip is thick and reflected over the columella and bears an obscure fold a little anterior to its insertion. The parietal wall is covered by a moderately thick callus.

The type, U. S. N. M. No. 210634, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 4452 in 49-50 fms. off Point Pinos Light on mud and sand bottom. It has 7 whorls remaining and measures: Height, 27.2 mm.; greater diameter, 9.5 mm.

U. S. N. M. No. 209843 contains a topotype from the same station.

U. S. N. M. No. 210048 contains a specimen dredged by the *Albatross* at station 4457 in 40-46 fms. off Point Pinos Light on mud bottom.

This species seems to have been confused with *Borsonella dalli* Arnold from the Pleistocene of Deadman's Island, but the strong angulation of the whorls of *dalli* will readily distinguish it from the present species.

KURTZIA, new genus.

Shell small, elongate-conic. The nucleus consists of 1.5 smooth turns followed by a fraction of a whorl that shows a couple of weak, rounded, flattened spiral threads. This is succeeded by 2 turns having strongly developed axial ribs which are protractively curved and narrower than the spaces that separate them, and 2 spiral cords, one of which forms the strong median angle, while the other is located halfway between this and the suture. The postnuclear whorls have a very conspicuous elevated, almost median shoulder and are crossed by very strong axial ribs which taper from the shoulder to the summit, as well as anteriorly; anteriorly they pass over the base and part of the columella. In addition to this,

there are finer axial threads between the ribs and on them, which extend from the summit to the tip of the columella. The spiral sculpture in addition to the median cord consists of similar cords, usually weaker, more or less regularly spaced from the median cord to the columella, growing gradually less strong anteriorly. These cords in connection with the axial ribs produce a fenestrated pattern. Between these spiral cords and upon them are finer spiral threads about as strong as the finer axial threads. These, in crossing each other, produce slender granulations that give to the entire surface of the shell a finely granular appearance. Aperture narrowly elongate-ovate with the posterior sinus moderately deep, extending from the summit to the median keel. Anterior to this the outer lip is protracted. The anterior canal is moderately long and moderately broad, and the inner lip appears as a glazed area upon the columella which extends upon the parietal wall. The operculum is thin, oval with apical nucleus and concentric lines of growth. The radula bears dagger-shaped marginals only.

Type: *Kurtzia arteaga* Dall and Bartsch. (= *Mangilia arteaga* Dall and Bartsch 1910.)

The decidedly longer postnuclear whorls will at once distinguish this from typical *Kurtziella*.

This genus embraces a number of species on the West Coast and ranges from British Columbia south to Panama.

KURTZINA, new genus.

Shell very small, varying from ovate to elongate-conic. The nucleus forms a rather obtuse apex. It consists of 2 strongly rounded, smooth turns, succeeded by a stage in which the axial ribs and spiral threads are of about the same strength, their intersections being nodulose. The postnuclear whorls are strongly medially angulated. Anterior and posterior to the angle they bear spiral cords of equal strength, which are finely granulose. This type of sculpture also extends over the base and columella. The axial sculpture consists of strong vertical or protractively slanting ribs which extend from the summit to the columella. Between these stronger ribs are incremental lines which are responsible for the granulation of the spiral threads. Base well rounded. Columella moderately long, slender, and slightly twisted. Aperture oval. The posterior sinus is immediately below the summit, extending from that to the median angulation. Anterior to the posterior sinus the outer lip is protracted. The parietal wall is covered with a glazed callus. The operculum is narrow, slender, and marked by concentric lines of growth. The radula bears dagger-shaped marginals only.

Type: *Kurtzina beata* (Dall) (= *Mangilia* (*Kurtziella*) *beata* Dall).

This genus differs from *Kurtzia* in having all the spiral threads of uniform strength instead of having coarse and finer elements. The group embraces a number of species and extends on the west coast from California to the Gulf of California.

Kurtzia gordonii, new species.

Shell small, very elongate-conic, wax colored. The nucleus consists of an initial stage of 1.5 smooth turns followed by a fraction of a whorl that shows a couple of weak, rounded, flattened spiral threads. This is succeeded by 2 turns having strongly developed axial ribs which are protractively curved and narrower than the spaces that separate them, and 2 spiral cords, one of which forms the strong median angle, while the other is located halfway between this and the suture. The postnuclear whorls are strongly angulated in the middle with the gently sloping shoulder posterior to this. They are marked by almost vertical axial ribs, of which 9 are present on the penultimate and the last turn. These ribs are very strong and about half as wide as the spaces that separate them. The spiral sculpture consists of a strong cord on the middle of the turns which marks the angulation, and a lesser cord midway between this and the periphery, the periphery being marked by another strong cord. Between the summit and the median angulation, 13 slender rounded spiral threads are present, 3 additional ones occurring on the cord at the angle, while the space between this and the cord anterior to it is marked by 7 similar threads; the cord itself also bears 3 threads and the space between this and the sutural cord bears 8 spiral threads with 3 additional threads on the peripheral cord. These cords are rendered minutely nodulose by the axial threads which are about as wide as the spaces that separate them. The nodules are very regular and rounded and give to the surface of the whorls a finely granulated appearance. Base rather long and marked by 4 spiral cords about half as strong as those on the spire between which finely granulose spiral threads are present. Of these, 6 are present between the periphery and first cord, 5 between that and the second cord, and 4 between that and the third cord. The columella is slender, slightly twisted and bears spiral cords which become consecutively weaker from the insertion to the tip of the columella. Nine of these spiral cords are present, and between them finely granulose threads. The fine nodules of spire, base, and columella are of similar strength and give that finer sculpture a quite uniform aspect. Aperture elongate-ovate. The outer lip with the posterior sinus between the summit and the median angulation. This is rather deep and rounded. Anterior to the sinus the outer lip is protracted and rendered sinuous by the heavier spiral sculpture. Anterior canal moderately broad and moderately long. The inner lip appears on the columella as a resorption area which extends up on the parietal wall. The operculum is thin, oval with apical nucleus and concentric lines of growth. The radula bears dagger-shaped marginals only.

The type, U. S. N. M. No. 331115, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 4482 in 43-46 fms. on green mud botton, off Santa Cruz, California. It has 7 postnuclear whorls remaining and measures: Height, 10 mm.; greater diameter, 3.5 mm.

U. S. N. M. No. 538882 contains 3 topotypes from the same source.

U. S. N. M. No. 331147 contains 3 specimens dredged by the *Albatross*

at station 4483 in 45 fms. on green mud bottom, off Santa Cruz, California.

U. S. N. M. No. 323521 contains 2 specimens dredged by the *Albatross* at station 4464 in 51 fms. on mud bottom, in Monterey Bay.

U. S. N. M. No. 209356 contains 1 specimen dredged by the *Albatross* at station 4475 in 142-158 fms., off Point Pinos Light.

U. S. N. M. No. 209871 contains 3 specimens dredged by the *Albatross* at station 4457 in 40-46 fms. off Point Pinos Light.

U. S. N. M. No. 150568 contains 1 specimen from Santa Barbara.

U. S. N. M. No. 206195 contains 2 additional specimens from Santa Barbara Island.

This species was referred to *Mangelia arteaga roperi* Dall by Dall, but is sufficiently distinct to merit specific separation. It is much larger than *roperi* with a much more acutely sloping shoulder and much shorter aperture.

I take pleasure in naming this species for Mackenzie Gordon in recognition of his work in the Monterey Bay region.

Propebela (Turritoma) diomedea, new species.

Shell small, thin, ovate, yellowish white. Nuclear whorls decollated. The postnuclear whorls are strongly rounded with a decided angulation at the anterior limit of the posterior sinus. The postnuclear whorls are marked by strong, protractively slanting axial ribs which are about half as wide as the spaces that separate them. Of these ribs, 18 are present on the last turn and 15 on the preceding whorl. The spiral sculpture consists of fine incised lines on the shoulder of the turns, that is the sinial area. The shoulder is marked by a spiral cord that renders the axial ribs very strongly nodulose. Anterior to the shoulder, the whorls are marked by strong spiral cords of which 2 are present on the first remaining turn, 3 on the second, and 4 on the third and last turns. Base strongly rounded and marked by the feeble continuations of the axial ribs and 8 spiral threads which become slightly weaker toward the columella. The columella is slender, slightly concave on the left side, and marked by 17 spiral threads. The aperture is pear-shaped. The posterior sinus is moderately deep. Anterior to the posterior sinus the outer lip is protracted and slightly concave on the basal portion. The inner lip is appressed to the columella which it marks as a slight absorption area that extends over the parietal wall.

The type, U. S. N. M. No. 226159, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 3670 in 581 fms. in Monterey Bay on mud bottom. It has 4.5 whorls remaining and measures: Height, 9.9 mm.; greater diameter, 5 mm.

U. S. N. M. No. 538878 contains 3 topotypes from the same source.

It differs from *P. (T.) monterialis* Dall in being much shorter, stouter, with more angulated shoulder and in having more distantly spaced ribs.

***Propebela (Turritoma) profundicola*, new species**

Shell moderately large, elongate-ovate, yellowish white. Nuclear whorls decollated. The postnuclear whorls are well rounded and bear a moderately strong angulation at the anterior termination of the posterior sinal area. The last postnuclear whorl bears 14 broad heavy axial ribs which are not quite as wide as the spaces that separate them. The preceding turn has 11 ribs. The spiral sculpture consists of 6 slender spiral threads in the sinal area, while at the angulation a heavier cord is present which renders the axial ribs nodulose. The space between the angulation and the suture bears 5 low spiral cords between which finer spiral threads are present. The base is moderately long, well rounded, and marked by the continuation of the axial ribs and 15 spiral threads, between which and on which finer spiral striations are present. The columella is moderately long and marked by feeble spiral threads. Aperture pear-shaped. The posterior sinus extends from the summit to the angulation and is shallow. Anterior to the posterior sinus the outer lip is protracted. The inner lip is reflected over the columella as a smooth area which extends over the parietal wall.

The type, U. S. N. M. No. 274112, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 4538 in 871 fms. on gray sand and rock bottom, off Point Pinos Light. It has 4 whorls remaining and measures: Height, 13.3 mm.; greater diameter, 6.2 mm.

This species is much larger than *Propebela (Turritoma) diomedea*, with the axial ribs coarser, heavier and even more distantly spaced, while the nodulation of the shoulders of the whorls is much less strong.

***Propebela (Turritoma) smithi*, new species.**

Shell moderately large, elongate-ovate, thin, yellowish white. Nuclear whorls decollated. The postnuclear whorls are well rounded. They are slightly channeled at the summit and roundly shouldered at the angulation, which is two-fifths of the distance between the summit and the suture, anterior to the summit. They are marked by slender, somewhat sinuous, protractively slanting, axial riblets which are best developed on the middle turns. On the last 1.5 turns they become gradually reduced and on the last portion of the last turn form mere incremental lines. The rounded shoulder forming the sinal area bears 6 slender spiral threads. Anterior to this, the whorls are marked by 9 stronger spiral cords which are separated by spaces about as wide as the spiral cords. On the last turn the spiral sculpture also becomes much reduced; 16 threads are here indicated. Base well rounded and marked by incremental lines and spiral threads a trifle stronger than those on the spire. Columella moderately stout, slightly concave on the left side, and marked by spiral threads of about the same strength as those on the base on its posterior half. On the anterior half the spiral markings become very fine. Aperture ovate. Posterior sinus immediately below the summit, moderately deep and rounded. Anterior to the posterior sinus the outer

lip is protracted. The inner lip is reflected over the columella as a thin callus which extends up on the parietal wall.

The type, U. S. N. M. No. 209118, was dredged by the U. S. Bureau of Fisheries steamer *Albatross* at station 4508 in 293-386 fms. off Point Pinos Light, on mud bottom. It has 5 whorls remaining and measures: Height, 9.5 mm.; greater diameter, 4.3 mm.

The fine axial ribs and fine spiral sculpture of the last 1.5 whorls will readily distinguish this species from the other here described.

I am naming it for Dr. Allyn G. Smith in appreciation of the work done by him in Monterey Bay.